

REGARDS

From

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EXPERIMENTAL DUPLICATION OF THE IMPORTANT PHYSICAL EVIDENCE OF THE LAPEL BULGE OF THE JACKET WORN BY GOVERNOR CONNALLY WHEN BULLET 399 WENT THROUGH HIM

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THE MOST IMPORTANT new piece of physical evidence in the analysis of the shooting of President Kennedy and Governor Connally has been the reaffirmation of the precise moment when bullet 399 passed through the body of Governor Connally. This is graphically demonstrated in frame 224 of the Zapruder movie by the sudden forward bulge of the right lapel of the suit jacket of Governor Connally. This was clearly demonstrated by enhancement of the motion picture in the laboratories of Failure Analysis Inc., by Jeffrey Lotz in 1992 (1). The Itek Corporation, in analyzing the film for CBS in 1975, postulated that Governor Connally was hit either in frame 223 or 224, but did not actually describe the distortion of the lapel, so far as we can tell (2).

It is also probable that this lapel distortion was noted by Robert P. Smith of Pittsburgh before 1975. During a telephone call to Mr. Olsen, of the staff of the Rockefeller Commission, Dr. Cyril Wecht asked if he had heard about a "dramatic" distortion of Connally's lapel in frame 224, as noted by one of his associates (3). Mr. Olsen indicated that no one else had mentioned it.

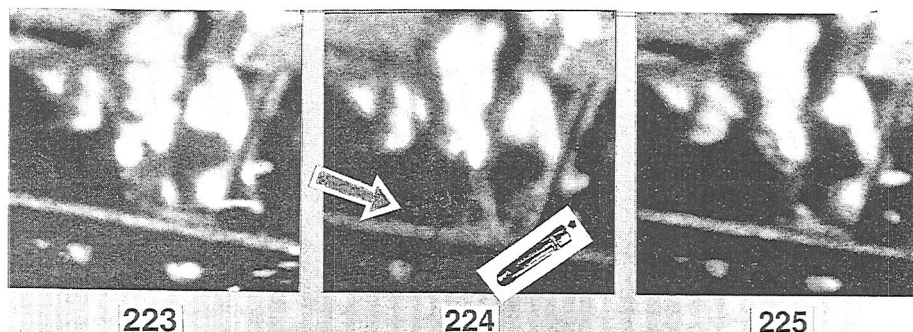
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The record shows that Dr. Wecht, under oath, later replied to a direct question by Mr. Olsen, that he, personally, did not believe this possibility was important (4, 5) but was only passing it along at the suggestion of a Robert P. Smith. He stated then that even Mr. Smith did not think it was important. He said that others believed the bullet to have gone through the two men at some later frame. He then dismissed the matter.

It is now our belief that Mr. Robert P. Smith deserves the credit for first detecting this very important bit of hard physical evidence. We had noted that the clothing on our mockups of Governor Connally, sitting in front of President Kennedy, would bulge forward as each bullet exited our preparations simulating the chest of Connally (6). If the bullets now went backward into a Connally thigh, they did not break the femur, if they broke a rib and wrist first.

Even running the Zapruder movie at an ordinary "slow motion," rate, one does not appreciate the sudden forward "bulge" of the lapel. It is necessary to run the movie very slowly, "freezing" each frame for a moment, before the flap of the lapel and the bulging of the jacket become obvious. Photo enhancement makes it easier to see, once you know when and where it occurs. Having established this fact, it then becomes apparent that the right arms of both men react immediately and simultaneously to the stimulus



Lapel Bulges Forward as Bullet Exits Under Right Nipple of Gov. Connally - Frame 224

FIG. 1. In frame 224 (center) of the Zapruder film, bullet 399 strikes Governor Connally in the back. It exists under his right nipple with a cloud of bloody soft tissue and rib fragments. This bulges the right side of Connally's coat forward and turns his lapel over in frame 224. The lapel then snaps back into position. Only when the movie is run very slowly does this become obvious. This had been noted by Robert P. Smith (but not published) and more recently by Jeffrey Lotz of Failure Analysis Associates. (Copyright ©1967 L. M. H. Company care of James Lorin Silverberg, Esq. All rights reserved.)

of the bullet having passed through them. The arms of Kennedy start an upward jerk into Thorburn's reflex position and the right hand of Connally, containing his big white Stetson hat, begins to snap up into view as his biceps contract and he jerks his painful forearm up into the view of Zapruder's camera. This simultaneous reaction of the two men to being penetrated by the same bullet is commencing in Figure 1. Doctor Michael West and Johann Rush have demonstrated this very clearly in their video presentation of this change (7) and as seen in our article that appeared in the *Journal of the American Medical Association* of March 24, 1993 (8).

Reenactment of the wounding of Governor Connally (Frame 224). As with any study of small photographs (movie frames), it is desirable to try to verify the findings by duplicating the situation as closely as possible, using the exact same type of rifle, cartridges, clothing, necks, ribs and radiuses, as at Dallas. In an attempt to verify and study this phenomenon further, a duplication of President Kennedy's size 16 neck and of Governor Connally's chest and jacket were tested to see exactly what would happen. A size 16 neck simulation was created, using fresh pork muscle, with the bone removed and the skin still in place. A rack was prepared to hold a rib cage at a

distance of 24 inches from the Kennedy neck. A white dress shirt and tropical worsted jacket were placed over the rib cage on a special rack (Fig. 2). A necktie was tied in place to simulate the clothing Governor Connally wore at the time of the shooting in Dallas. An array of radiuses (arm bones), encased in simulated forearms, was arranged in front of the right lapel of Governor Connally and a bullet trap was mounted beyond this array. Bullets of the Western Cartridge Company 6.5 millimeter ammunition of the same lots used by Lee Harvey Oswald were fired from a Carcano carbine exactly like the one used by Oswald. We knew from our previous experiments (6) that our test bullets would almost certainly "tumble" and would strike our "Governor Connally back" at about the point where he was actually struck. Our test bullet also struck a rib (just as in Governor Connally), removing 4.5 centimeters of the rib (Fig. 3) and exited in the area that would have been under his right nipple (Fig. 2). The flying fragments of rib, marrow and soft tissue, accompanying the exiting, tumbling bullet, caused a large ragged hole in the shirt (Fig. 4) and the jacket lining (Fig. 5) and plastered them with fragments of rib and soft tissue, just as in the Governor's instance (9). The bullet exited under the right lapel, still tum-

not 210?
West
Johann
Rush
Stetson

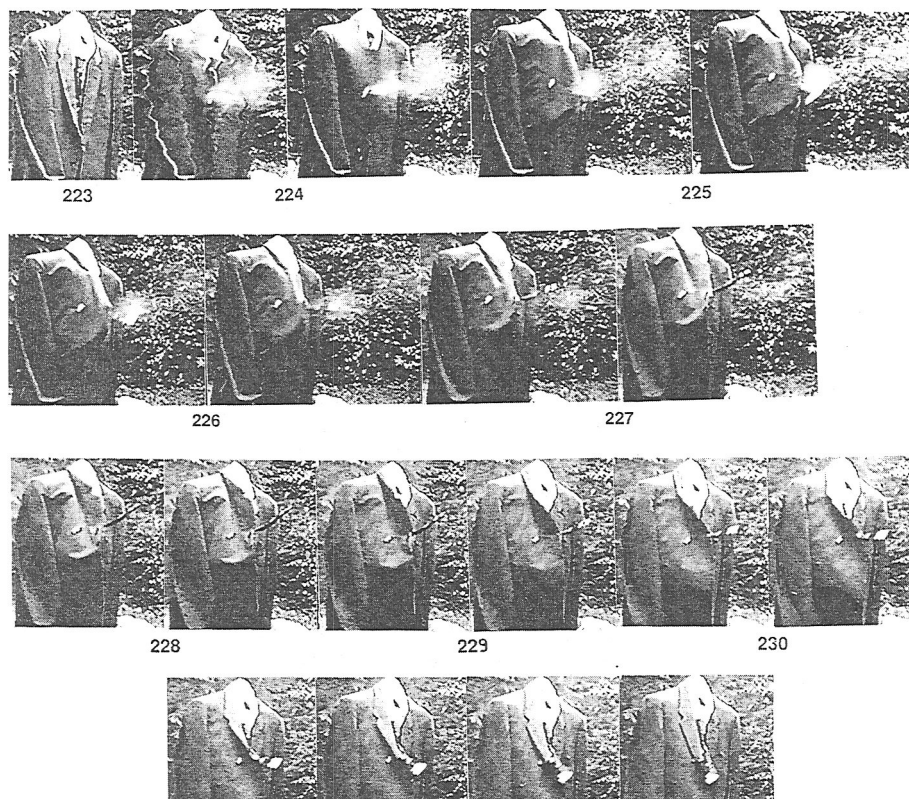


FIG. 2. A white dress shirt with necktie and a tropical worsted jacket were arranged over a rib cage on a special rack to simulate the clothing Governor Connally wore in Dallas (Frame 1). The Carcano rifle was fired at frame 2 and the fully jacketed bullet (which had already passed through the model of the neck of Kennedy, to make it tumble) exited under the right nipple area after striking a rib. It left a 3 centimeter elongated exit wound in the jacket, clearly visible here, and was accompanied by a cloud of flying fragments of soft tissue and rib (easily seen in this photograph). The lapel flipped over completely, just as can be seen in Zapruder frame 224 (Fig. 1). In Zapruder frame 225, the back of the lapel of Connally's jacket is seen. This entire sequence of 18 frames took place in two-thirds of a second (30 frames per second). The lapel had flipped back into place in less than one-half second and the bulge was gone almost as quickly, even on this static model.



FIG. 3

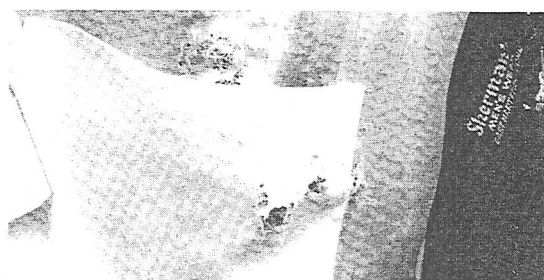


FIG. 4

FIG. 3. A 4 1/2 centimeter segment of one of our "Connally" ribs was removed by the tumbling bullet that had gone through our model of the neck of President Kennedy, hitting our simulation of Governor Connally.

FIG. 4. The exit wound in the front of our shirt was large and ragged and peppered with small holes from the rib fragments. This was exactly how Governor Connally's shirt was damaged.

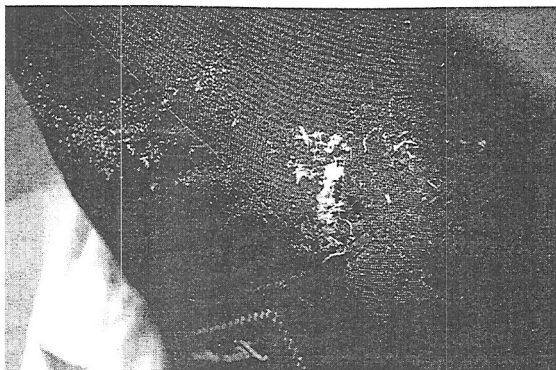
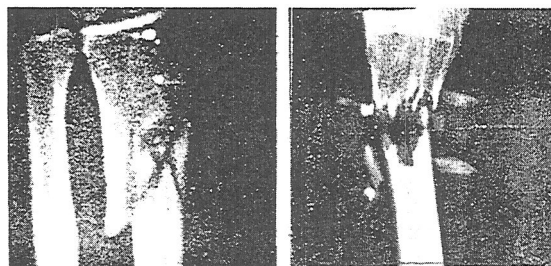


FIG. 5



CONNALLY TEST
WRIST XRAY WRIST XRAY

FIG. 6

FIG. 5. The lining of the inside of the right side of the jacket of Connally was plastered with soft tissue debris, cut by many flying rib fragments and coated with bone marrow residue. The elongated bullet hole was in the middle of this coating of debris.

FIG. 6. Our radius, which was mounted in front of the lapel of Connally's jacket, was struck about where the Governor's radius was struck, but more centrally. Tiny fragments of lead were scraped off the extruded soft gray lead at the bottom of the tumbling bullet and left in the wound in the wrist, as with Governor Connally's wrist. The bullet, which we caught in our bullet trap, was somewhat flattened and bent and had soft gray lead protruding from the rear, like bullet 399. The roentgenograph of our test wrist is mounted beside the roentgenograph of the wrist of Connally, for comparison,

bling, making a 3 centimeter transverse bullet wound in the cloth (Fig. 2). It then struck one of the forearms arrayed in front of the jacket. The bullet was captured in a bullet trap beyond this point. A videotape of the motion of the jacket was obtained, along with frames from a rapid-firing 35 millimeter camera. These revealed that the jacket bulged out about 6 inches and then snapped back (Fig. 2). The lapel flipped over against the neck area. The forward motion of the bulging jacket was completed in 3/30th of a second, whereupon the backward snap began on our static model. This was completed by 16/30th of a second from the shot. After this, the jacket and lapel were again back in normal position. While the rib and soft tissue fragments

caused a large ragged wound in the shirt (9), just as described in Governor Connally's shirt, the exit hole of the bullet in the front of the jacket was elongated to a length of 3 centimeters (almost exactly the length of the tumbling bullet) (Fig. 2). The large shirt wound and the bulge of the jacket were more related to the hail of fragments of rib and soft tissue. The bullet then struck one of the radiuses mounted in front of the jacket. The bullet from this experiment was flattened on one side (Figs. 7 and 8) and bent from hitting the rib and radius while traveling sideways, just as bullet 399 was flattened and bent for the same reasons (399 is definitely not "pristine"). Lead extruded from the rear of our bullet as with bullet 399 (Fig. 8). The radius was fractured and tiny fragments of lead were left adherent to the periosteum, exactly as in Governor Connally (Fig. 6). One of the most dependable features of this Kennedy and Connally mockup was the characteristic manner in which these Carcano bullets turned sideways (tumbled) after exiting the neck of Kennedy.



FIG. 7. After traversing our model of the neck of Kennedy, turning sideways to take a segment out of our Connally rib and then breaking our Connally wrist (radius), this bullet was caught in our bullet trap. It was flattened and bent like bullet 399. The grooves and scratches on its side are from rifling in the gun. The nose is scratched from glancing off the metal side of our bullet trap.

The bullet must traverse the neck of John F. Kennedy first or no jacket bulge occurs. In an effort to determine what would happen if the bullet did not go through the neck of Kennedy first, but hit Connally primarily, we fired a bullet through our Connally jacket and thorax preparation without running it through the model of Kennedy's

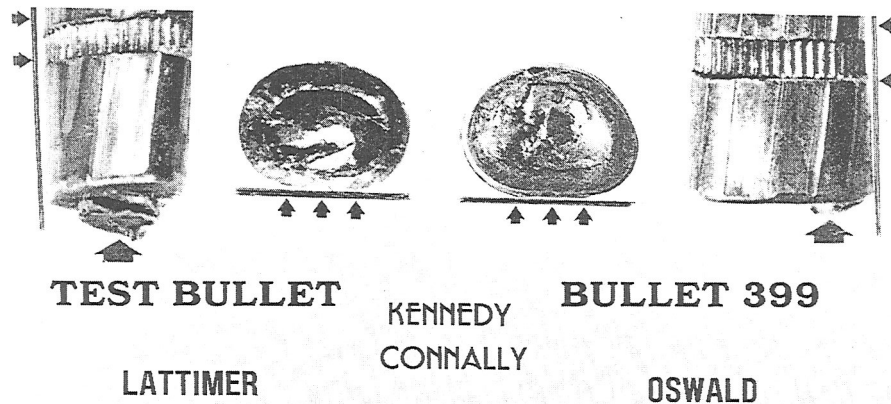
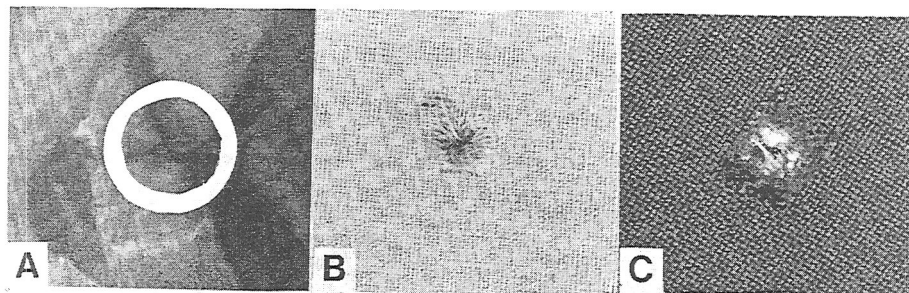


FIG. 8. The flattening of the base of our bullet (left) from striking our "Connally" bones was very much like that of Warren Commission bullet 399 (right). Note the protrusion of the soft lead core of our bullet (left, large arrow) and of bullet 399 (right, large arrow). More of the lead from bullet 399 was scraped off in Governor Connally's wrist and leg than in our simulation. Also note that both bullets are bent (side arrows).

neck first, so it did not tumble (Fig. 9). The jacket did *not* bulge out and the lapel did *not* turn over. The shirt collar flopped briefly. With the bullet going straight ahead, wounds to the rib, shirt and jacket were punctate and the rib fragments were not enough to bulge out the

front of the jacket. This made it seem even more likely that bullet 399 had gone through the neck of President Kennedy first, turned sideways and caused the very obvious jacket and lapel distortions, which we have recorded herein and which occur in frame 224. If the bullet did *not* go



**DIRECT HIT ON GOV. CONNALLY
GAVE NO JACKET OR LAPEL BULGE
EXIT WOUNDS IN SHIRT (B) AND SUIT JACKET (C) WERE TINY.
BECAUSE SMALL RIB WOUND (A) (BULLET NOT TUMBLING)
MADE NO RIB FRAGMENTS.**

FIG. 9. If the bullet did *not* traverse President Kennedy first, *no* jacket or lapel bulge occurred. The resulting rib wound was smaller (A), the exit holes in the front of Governor Connally's shirt (B) and jacket lapel (C) were tiny, if caused by *this* bullet, which struck Governor Connally directly, without hitting President Kennedy's neck first. Therefore, the bullet was *not* tumbling (from hitting Kennedy first), so it did *not* shatter the Connally rib, causing the hundreds of sharp flying bone fragments. Therefore, it did *not* bulge the lapel of the jacket worn by Governor Connally. This affirms the fact that bullet 399 had to hit both men to cause the bulge of the lapel in the Governor's jacket, which can be seen so clearly.

through the neck of Kennedy first, the jacket bulge and lapel flap did *not* occur.

SUMMARY

By duplicating the wound to the neck of President Kennedy, which caused bullet 399 to turn sideways, and having it *then* hit a Connally-type rib cage with shirt and jacket, we reproduced the right-sided bulge of the jacket worn by Connally, with lapel eversion, which is so significant in frame 224. The extensive damage to his shirt-front was from the hail of rib fragments and soft tissue, exactly as described with his own shirt. Our tumbling bullet then went on to fracture a radius and be recovered intact except that it was somewhat flattened and bent and had lead extruded from the rear, as did bullet 399. Fragments of this lead were scraped off on the ragged bone-ends of some of our fractured radiuses, just as with Governor Connally's radius. It is believed that this duplication of the jacket and lapel bulge of Governor Connally, which occurred dependably, when we reproduced the circumstances at Dallas, confirmed this very important detail in this technical demonstration of the findings in the shooting of President Kennedy and Governor Connally.

The bulge and the lapel eversion of the jacket worn by Governor Connally, starting in Zapruder frame 224, does indeed establish, beyond any shadow of a doubt, the exact moment when bullet 399 went through him. The right arms of both men were seen to react simultaneously, immediately thereafter. It also permits us to establish that there was plenty of time (three and one-half seconds) between the first two shots (frames 160 to 224) and even more time (five seconds) be-

tween the last two shots (frames 224 to 313), for Oswald to reload, reacquire his target (the head of President Kennedy) plus two full seconds to lock onto it. If the bullet does not traverse the neck of President Kennedy, it does not cause Governor Connally's jacket and lapel to bulge. The lapel bulge is a very important bit of actual physical evidence in establishing the fact that one bullet hit both men and that Oswald had plenty of time to hit the President, first in the neck and then in the head. These experiments confirm the mechanism of the lapel bulge and the behavior of the bullet.

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